

Title: FINANCIAL PERSPECTIVE OF EU AGRI-BUSINESS

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ABSTRACT

Recent global financial crisis, has affected in different way the economic activity of the EU business sectors, and their financing capabilities. The Agri-Business sectors are not alien to this situation. However there are very few public studies of the sector financial characteristics and their credit necessities, thus, for instance, how could they be affected by the financial crisis. How to characterize the financial scenario for the Agri-Business sector is a difficult process and no simple answer is provided.

This paper intention is to identify descriptive financial patterns associated with the different sectors and countries, which could transition into a model to facilitate the financial analysis of the Agribusiness sector. Only two sectors are going to be considered, primary producers, like farmers, and secondary producers like the agro-food industry. Which selection will be based on Eurostat NACE classification, focusing on the small and middle small enterprises.

One of the problems is that harmonized financial data needs to be used, for all the countries and selected sectors. For this reason, we would have to restrict the number of EU countries in consideration, to the following ones: Poland, Austria, Germany, Netherland, Denmark, Belgium, France, Portugal, Spain, and Italy. These, represent several economic regions of Europe with diverse agricultural, and agro-food industrial base.

The exploratory statistical descriptive analysis, leading to this model, will be based on the aggregated standardized common-size Financial Statements, of the sectors, by size and country. Not all financial items and ratios are to be used in the analysis, but those that better characterize the financial and economic structure of the enterprises in the Agri-Business. The comparison process is based on the financial supply chain.

The advantage of using exploratory data analysis is the inclusion of graphical representations as a form of model building, facilitating the comparison and explanation of the differences between sectors.

This work represents the first step in modelling the financial structure of the EU Agri-Business, with the mentioned limitations in countries and data type. This models,

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and upgraded version, can be use to simulate the impact of different financial risks and theirs outcomes.

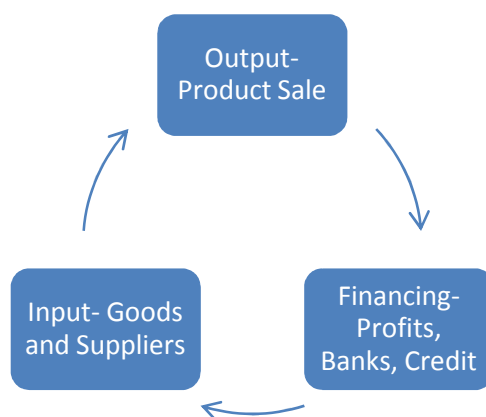
KEYWORDS: Agribusiness, EU Business Analysis, Financial Comparison, Financial Models, Financial EDA.

1. INTRODUCTION

Recent global financial problems, have affected in many ways the economic activity of the EU business sectors, and theirs financing capabilities. The Agri-Business sectors are not alien to this situation. However there are very few public studies of the sectors financial characteristics and their credit necessities. Some problems are particular to all companies and sectors, having a distinct working capital financing requirements, which provides an insight to the processes involved (Losová, 2014), (Dilek, 2011).

How to characterize the financial scenario for the Agri-Business sector is a difficult process and no simple answer is provided (Miller, 2010), (Iotti, 2012). So, a comparison model has to be designed in such a way to overcome the limitations of data to produce meaningful results. In this context the model is considering the elements and activities related to the operation financial supply chain: input (purchasing costs, supply cost, payables), financing the working capital (cash and banks, credit and total liabilities), and the output (receivables, net profit, and ROE). See the cycle in figure 1.

Figure 1. Operations-based Model



The limitations of the data for the analysis are one of the recurring problems, when the analysis is extended to the whole EU zone, at first level NUTS. The cause is that farming and food industry enterprises financial data is dispersed over many data bases and incomplete, either partial financial statements, or missing years, when not based in different recording principles. As result the best solution is to work with aggregated data for all the countries and selected sectors from one single official source, like “BACH” (Bank for the Accounts of Companies Harmonized) from the European Committee of Central Balance-Sheet Data Offices (ECCBSO).

When taken in consideration the values of the operations-based model, not all the countries have their values present. Once more, a limitation in the number of countries analysed has to be taken into account. Then, the following EU countries for the 2014 accounts were included: Austria, Belgium, Denmark, Spain, France, Italy, Netherlands, Poland, and Portugal (ECCBSO BACH, 2013).

To form a clear picture of the Agri-Business financial profile, only two major sectors have been considered, based on NACE rev2 codification (EUROSTAT, 2016). Code group A01, “Crops and animal production, hunting and related activities” including 32 subgroups, and code group C10, “Manufacture of food products” including 26 subgroups. Also, considering the enterprise size a second classification is used based on the usual division, “Small” if turnover is equal or less than 10 Million Euros, or “Medium” if turnover is larger than 10 Million Euros and less or equal to 50 Million Euros. As by standard market classifications, these values are not fitted to better sort out the agri-business turnover across Europe.

The Financial Statements used are in common-size mode, that is, all data in the Balance Statement are relative to Total Assets, and all data in the Income Statement are relative to the Total Income. Under this mode the aggregated data of different countries can be easily compared and treated statistically. From the Income Statement the values taken for analysis are Net Profit, Cost of Goods (COGS) and Cost of Supplies, and with respect to the Balance, the values considered are Receivables, Payables, Cash and Banks, Credit Debt and Total Liabilities. Outside these, the ROE ratio is included, being a ratio number it can be dealt with as the other relative values (Ross, 2013)

For the comparison, statistical exploratory data analysis support is also involved (Tukey, 1977), with instruments such as quartile intervals, countries average, countries standard deviation and variation coefficient, also including graphical representations like Box-Plot and Tree-Maps (Ware, 2012).

2. COMPARISON ANALYSIS OF FARM COMPANIES

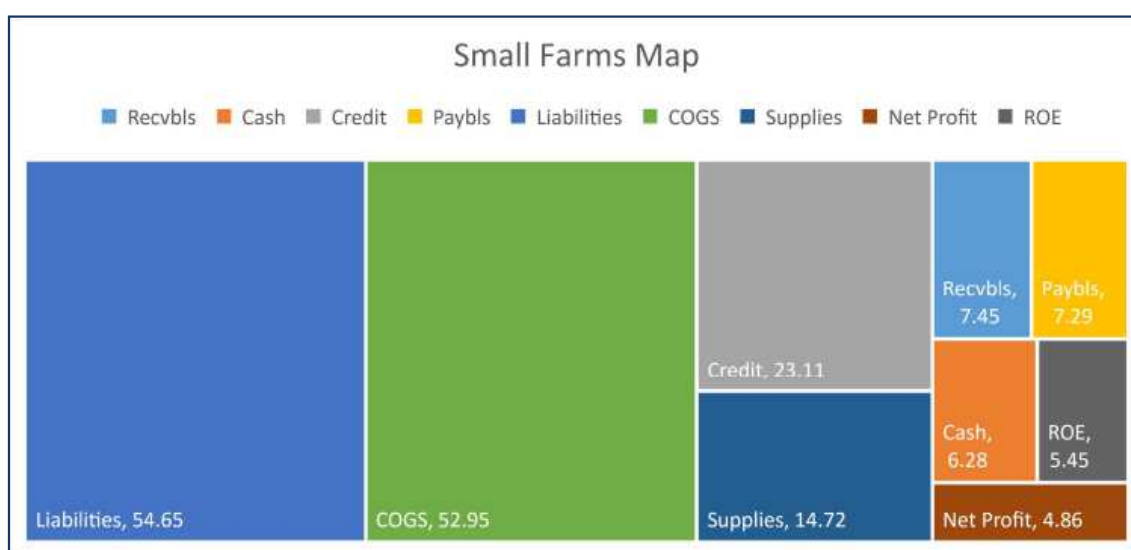
The farm companies analysed are those included in the NACE A01 group, with their financial values aggregated for the countries Austria, Belgium, Spain, France, Italy, Netherlands and Poland. These farms are divided in Small and Medium size according to their turnover.

As part of the limitations of available data, the level of significance of the data is different as result of the companies sample size. The small farms have a sample size above 1000 companies, while the Medium size farms have a sample less than 100, with the exception of Italy with 257 companies. The implications for the aggregated averaged data are significative.

Small Farm

The importance of the values in the Financial Statements, considering average values for the selected countries, is presented in the figure 2.

Figure 2. Small Farms Values Importance

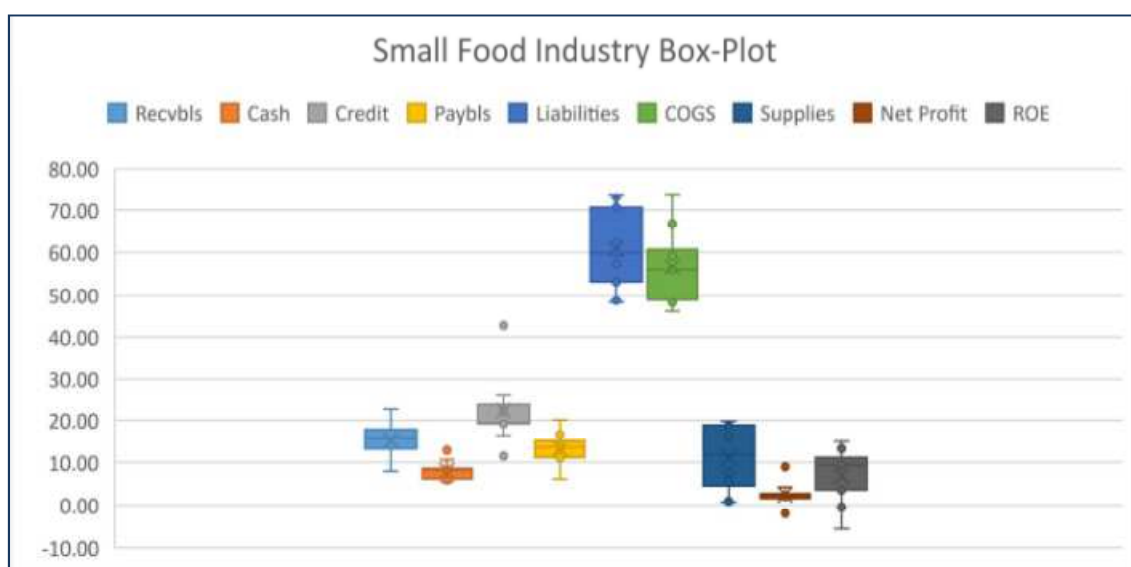


It can be noticed that Liabilities (current and long term debt) is the first value in importance, reflecting the needed leverage to finance operation. On the side, Cost of Goods is the second most important value. Credit (Bank Credit) is the third in importance, and included in the Liabilities. Receivables (pending to collect) and Payables (pending to pay) are quite similar and not very large, representing a balanced trade where distribution is clearing the orders.

The importance shown by the Liabilities and Bank Credit leave the Small Farms with a big dependency on credit availability and the financial crisis impact (Vander-Stichele, 2014), (Piette, 2015).

The inter quartile range for each value expresses the country differences, which financially reflects the particulars of farms characteristics and markets in each country. Graphically it can be observed at the Box-Plot in figure 3.

Figure 3. Small Farm Values Dispersion



Liabilities, COGS, Supplies and ROE, present an important inter-quartile range, which reflects a wider range of operational results in their respective countries, having COGS an important outlier corresponding to Belgium, and Net Profit and ROE corresponding to Poland and Italy. On one side the other values are very close, which could imply a common pattern across Europe.

Finally the detailed analysis at country level is built with the use of table 1. Here the values for each country are reflected, and the descriptive statistics are tally from the country level results.

Table 1. Small Farm Data and Descriptive Statistics

country	Recvbils	Cash	Credit	Paybils	Liabilities	COGS	Supplies	Net Profit	ROE
AT	7.18	5.33	41.92	7.72	66.33	43.06	4.11	4.34	9.80
BE	9.62	8.19	24.23	10.19	63.93	74.36	1.90	2.06	3.56
ES	6.41	6.29	14.30	5.76	42.14	52.90	27.69	2.29	1.47
FR	9.64	4.71	21.91	7.36	53.71	34.01	29.21	4.63	5.07
IT	8.59	3.20	19.77	9.54	65.84	59.03	22.86	-2.48	-2.00
NL	4.11	10.05	21.95	3.89	53.48	45.29	6.66	9.47	9.48
PL	6.61	6.20	17.70	6.56	37.15	61.99	10.61	13.70	10.75
AVG	7.45	6.28	23.11	7.29	54.65	52.95	14.72	4.86	5.45
STD	1.99	2.26	8.91	2.16	11.64	13.49	11.57	5.29	4.80
VC	0.27	0.36	0.39	0.30	0.21	0.25	0.79	1.09	0.88
Q1	6.51	5.02	18.74	6.16	47.81	44.18	5.39	2.18	2.52
Q2	7.18	6.20	21.91	7.36	53.71	52.90	10.61	4.34	5.07
Q3	9.11	7.24	23.09	8.63	64.89	60.51	25.28	7.05	9.64

In this table the red and green shadows represent the maximum and minimum values for each column. Austria (Credit, Liabilities and ROE) and Belgium (Receivables, Payables and COGS) show the larger concentration of maximum values involving three columns. While Italy (Cash, Net Profit and ROE) represents the worst cases.

The Variation Coefficient (VC) measures the degree of dispersion of the series and how narrow is the confidence interval for 65% probability. The less favourable intervals are for Supplies, Net Profit and ROE. The outliers of Italy (negative) and Poland (higher) in Net Profit and ROE are cause of the VC larger confidence interval.

The Quartile intervals are considered in detail for the columns, Receivables, Cash and Banks, Credit, Payables, COGS and Net Profit (Barret, 2016).

Quartile intervals for Receivables are as follows: Q3 includes Belgium and France; Q2 includes Austria and Italy, Q1 Poland, and in Q0 includes Spain and Netherlands. The High Q represents longer payment periods from customers (distribution).

Quartile intervals for Cash and Banks have in Q3 Belgium and Netherlands, Q2 Spain and Poland, Q1 Austria and in Q0 France and Italy

Quartiles for Credit (Bank Debt) include in Q3 Austria and Belgium, Q2 France and Netherlands, Q1 Italy and in Q0 Spain, and Poland

Note that the Mediterranean countries, Italy, Spain and partially France, work with low Bank Credit and Cash Reserves. This represents a low capacity of investment for new projects and developments.

Quartiles for Payables include in Q3 Belgium and Italy, Q2 France and Austria, Q1 Poland and in Q0 Spain, Netherlands. High Q implies later payment to providers.

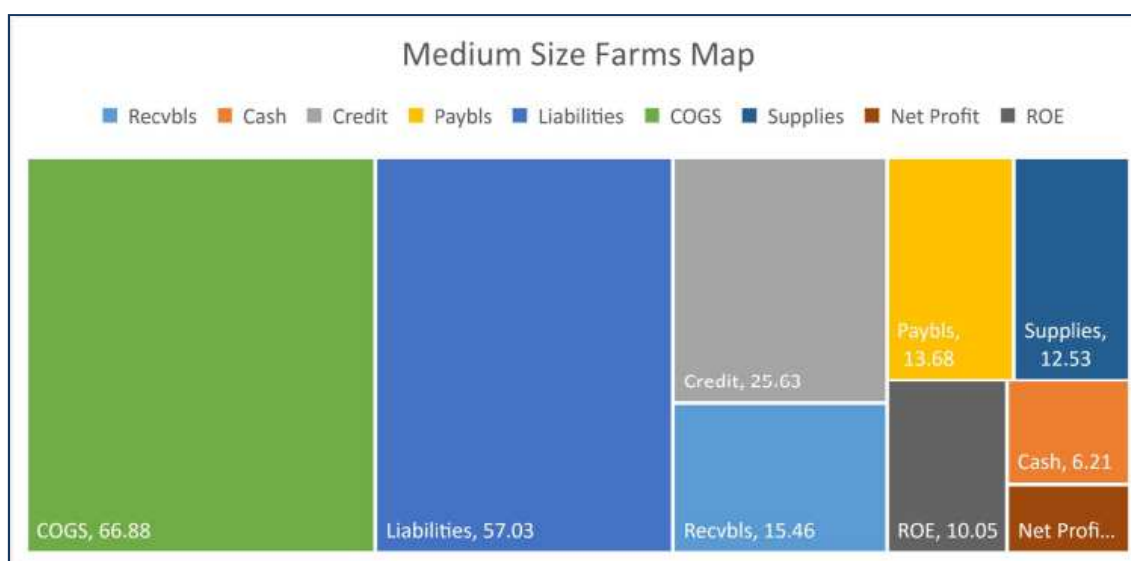
Quartile intervals for COGS have in Q3 Belgium and Poland, Q2 Spain and Italy, Q1 Netherlands and in Q0 France and Austria. It is very dependent of the farming activity and extend.

Quartiles for Net Profit include in Q3 Poland and Netherlands, Q2 Austria and France, Q1 Spain and in Q0 Italy and Belgium. The Mediterranean countries show a lower Net profit than the rest.

Medium Size Farm

The values sorted by importance are presented in the figure 3.

Figure 3. Medium Size Farms Values Importance



COGS is now the first value of importance, up 14% over Small Farms. Liabilities is the second value with a small increase, and Credit the third where the increase is up 3%. Notice that Receivables has doubled and is larger than Payables. Trade is thus not in balance.

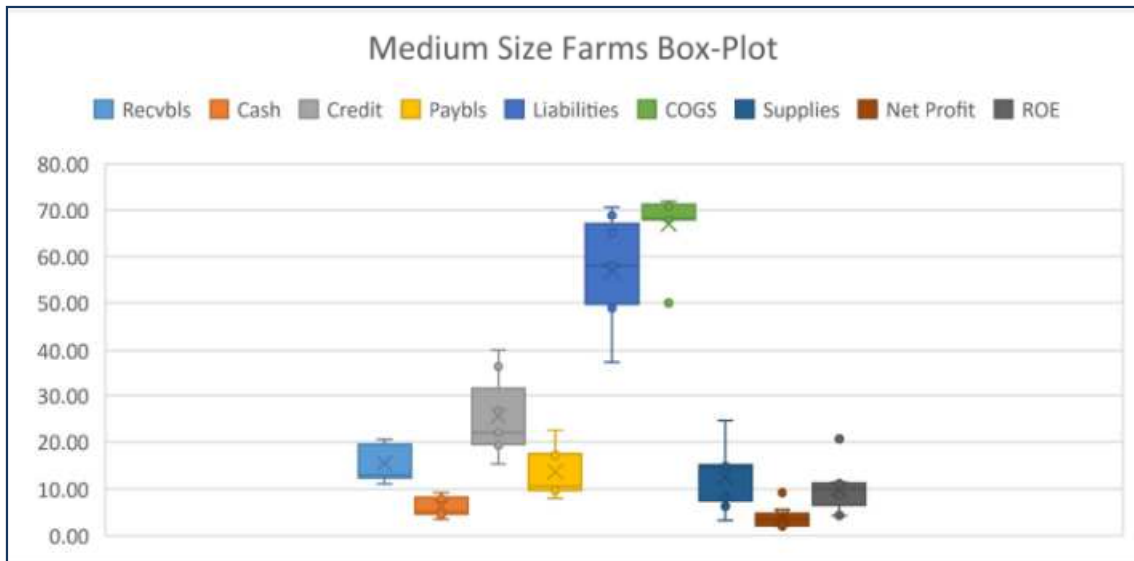
The dependency about the credit availability and the financial crisis impact is slightly higher.

The inter quartile range graphically it can be observed in the Box-Plot in figure 4.

Liabilities and Credit present an important inter-quartile range. Credit, Liabilities, COGS and Supplies have important outliers corresponding to Austria,

Netherlands, Italy, Spain, and France. The remaining values also have some inter-quartile and outliers, which could imply there is not a common pattern across Europe.

Figure 4. Medium Size Farm Values Dispersion



Finally the detailed analysis at country level is shown in table 2.

Table 2. Medium Size Farm Data and Descriptive Statistics

country	Recvbls	Cash	Credit	Paybls	Liabilities	COGS	Supplies	Net Profit	ROE
AT	11.13	8.72	40.15	9.85	58.05	71.56	3.20	2.02	4.22
BE	20.50	9.27	26.62	17.77	68.83	67.75	15.10	2.17	10.03
ES	18.57	4.49	19.24	17.19	50.47	70.80	15.19	3.85	11.18
FR	12.67	5.12	15.36	10.62	48.86	49.94	24.66	5.53	8.67
IT	20.33	4.60	21.95	22.51	65.05	71.87	14.82	2.02	4.26
NL	12.96	7.83	36.37	9.73	70.58	68.29	6.22	3.48	20.61
PL	12.06	3.45	19.73	8.07	37.36	67.92	8.53	9.26	11.39
AVG	15.46	6.21	25.63	13.68	57.03	66.88	12.53	4.05	10.05
STD	4.15	2.33	9.33	5.45	12.14	7.67	7.18	2.63	5.54
VC	0.27	0.38	0.36	0.40	0.21	0.11	0.57	0.65	0.55
Q1	12.37	4.55	19.49	9.79	49.67	67.84	7.38	2.10	6.47
Q2	12.96	5.12	21.95	10.62	58.05	68.29	14.82	3.48	10.03
Q3	19.45	8.28	31.50	17.48	66.94	71.18	15.15	4.69	11.29

In this table, again Austria (Cash, Credit and COGS) and Belgium (Receivables, Cash and Liabilities) show the larger concentration of maximum values, followed by Italy (Receivables, Payables, COGS). While France (Cash, Credit, Payables and COGS), followed by Austria (Receivables, Payables, Supplies, Net Profit and ROE), Italy (Cash, Net Profit and ROE) and Poland (Cash, Payables, Liabilities) have minimum values. It can be noticed that some countries are both showing maximum and minimum values. One reason for this behaviour can be linked to the small sample of enterprises in the Medium Size Farms.

The Variation Coefficient (VC) presents narrower intervals than the Small Farms, but the significant presence of outliers affects the intervals range.

The Quartile interval analysis per country is as follows:

Quartile intervals for Receivables are as follows: Q3 includes Belgium and Italy, Q2 includes Spain and Netherlands, Q1 includes France, and Q0 Austria and Poland.

Quartile intervals for Cash and Banks have in Q3 Belgium and Austria, Q2 Italy, France and Netherlands, and in Q0 Spain, France, and Poland.

Quartiles for Credit (Bank Debt) include in Q3 Austria and Netherlands, Q2 Belgium and Italy, Q1 Poland and in Q0 Spain, and France.

Note that the Mediterranean countries, Italy, Spain and partially France, work with low Bank Credit and Cash Reserves. This represents a low capacity of investment for new projects and developments.

Quartiles for Payables include in Q3 Belgium and Italy, Q2 France and Spain, Q1 Austria and in Q0 Netherlands and Poland

Quartile intervals for COGS have in Q3 Austria and Italy, Q2 Spain and Netherlands, Q1 Belgium and Poland and in Q0 France.

Quartiles for Net Profit include in Q3 Poland and France, Q2 Spain and Netherlands, Q1 Belgium and in Q0 Austria and Italy.

3. COMPARISON ANALYSIS OF FOOD INDUSTRY COMPANIES

The food industry companies analysed are those included in the NACE C10 group, with their financial values aggregated by the countries Austria, Belgium, Denmark, Spain, France, Italy, Netherlands, Poland and Portugal. Industry is divided in Small and Medium size according to their turnover, same limits as before.

As part of the limitations of available data, the level of significance of the data is different as result of the companies sample size and countries. The small industries have a sample size ranging between 5000 and 21 (Denmark) with an average size of 3200, while the Medium size industries have a sample size between 1000 and 27 (Denmark) with an average size of 380. As with the farms the samples for medium industry are significantly lower in size than for small industry.

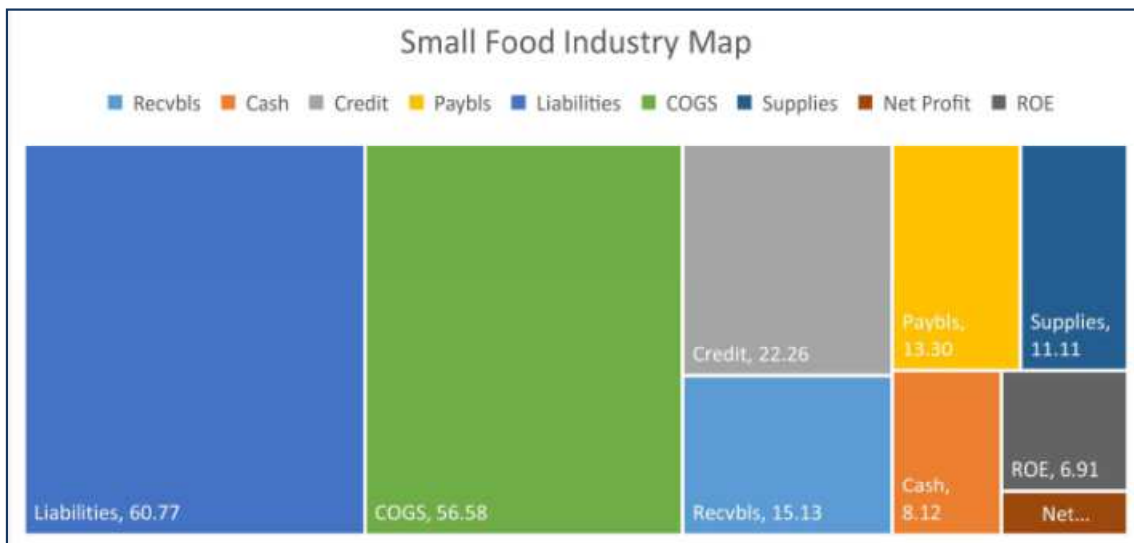
Small Industry

The values sorted by importance are presented in the figure 5.

Liabilities is now the first value of importance, up 6% over small farms. COGS is the second value, up 4%, and Credit the third where the value is likewise. Notice that Receivables has doubled and is larger than Payables. Trade is thus not in balance.

The dependency about the credit availability and the financial crisis impact is similar to small farms.

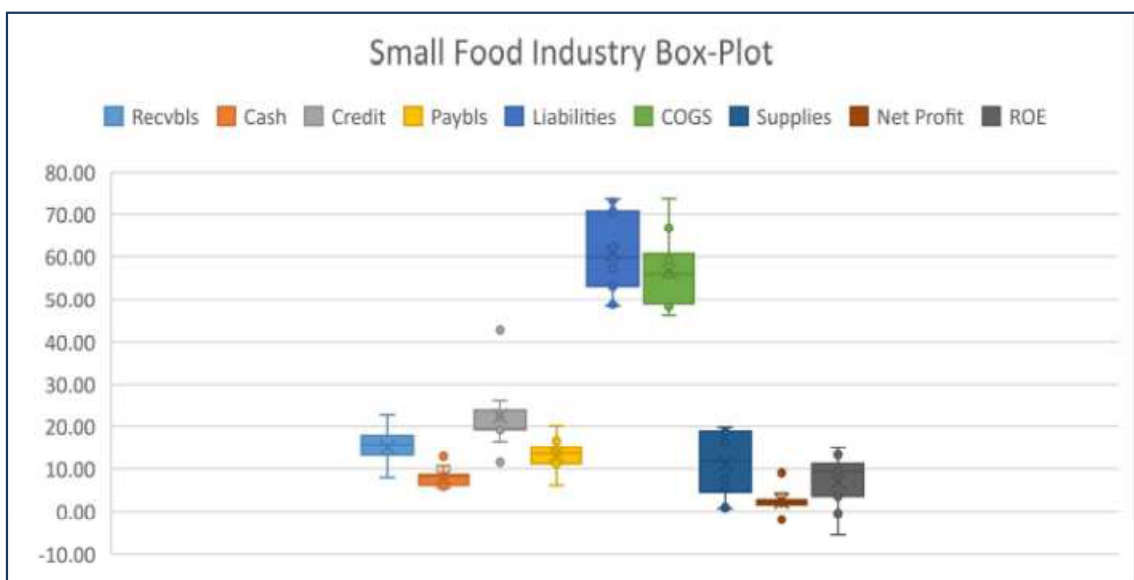
Figure 5. Small Industry Values Importance



The inter quartile range graphically it can be observed in the Box-Plot in figure 6.

Liabilities, COGS, Supplies and ROE, present an important inter-quartile range, with a profile very similar to small farms. Credit, COGS, Net Profit and ROE have significant outliers, corresponding to Austria, Poland and Netherlands. On the other side the other values are very close, which could imply a common pattern across Europe.

Figure 6. Small Industry Values Dispersion



The detailed analysis at country level is shown in table 3.

Table 3. Small Industry Data and Descriptive Statistics

country	Recvbils	Cash	Credit	Paybils	Liabilities	COGS	Supplies	Net Profit	ROE
AT	9.94	5.46	42.74	11.22	73.85	49.43	0.89	2.06	11.20
BE	13.26	8.68	16.41	11.17	57.21	66.70	5.72	2.68	5.12
DE	13.29	6.70	25.92	11.45	62.17	46.10		2.34	10.66
ES	18.02	8.26	19.44	13.57	53.17	56.06	19.36	1.60	3.54
FR	17.61	10.67	19.20	16.57	59.87	48.23	19.81	2.56	9.46
IT	22.59	6.26	22.07	20.08	72.99	60.72	18.63	-0.14	-0.50
NL	7.96	12.89	11.50	6.21	48.70	48.82	0.71	9.08	14.95
PL	15.69	5.88	19.32	14.36	48.32	73.96	7.57	4.22	13.29
PT	17.85	8.27	23.75	15.11	70.64	59.17	16.19	-1.94	-5.54
AVG	15.13	8.12	22.26	13.30	60.77	56.58	11.11	2.50	6.91
STD	4.52	2.43	8.74	3.93	9.95	9.48	8.28	3.04	6.79
VC	0.30	0.30	0.39	0.30	0.16	0.17	0.75	1.22	0.98
Q1	13.26	6.26	19.20	11.22	53.17	48.82	4.51	1.60	3.54
Q2	15.69	8.26	19.44	13.57	59.87	56.06	11.88	2.34	9.46
Q3	17.85	8.68	23.75	15.11	70.64	60.72	18.81	2.68	11.20

In this table Italy (Cash, Payables, Liabilities and Supplies) and Netherlands (Cash, Net Profit and ROE) show the larger concentration of maximum values. While Austria (Receivables, Cash and Supplies) and Netherlands (Receivables, Credit, Payables, Liabilities, COGS and Supplies) have minimum values. It can be notice the some countries are both showing maximum and minimum values.

The Variation Coefficient (VC) values are similar to those of small farms.

The Quartile interval analysis per country is as follows:

Quartile intervals for Receivables are as follows: Q3 includes Spain, Italy and Portugal, Q2 includes France and Poland, Q1 includes Belgium and Denmark and Q0 Austria and Netherlands.

Quartile intervals for Cash and Banks have in Q3 Belgium, France and Netherlands, Q2 Spain and Portugal, Q1 Denmark and Italy, and in Q0 Austria and Poland.

Quartiles for Credit include in Q3 Austria, Denmark and Portugal, Q2 Spain and Italy, Q1 France and Poland, and in Q0 Belgium and Netherlands.

Note that the South European countries, Italy, Spain, Portugal and partially France, work with a better provision of Bank Credit and Cash Reserves than small farms. This represents some capacity of investment for new projects and developments.

Quartiles for Payables include in Q3 France, Italy and Portugal, Q2 Spain and Poland, Q1 Austria and Denmark, and in Q0 Belgium and Netherlands.

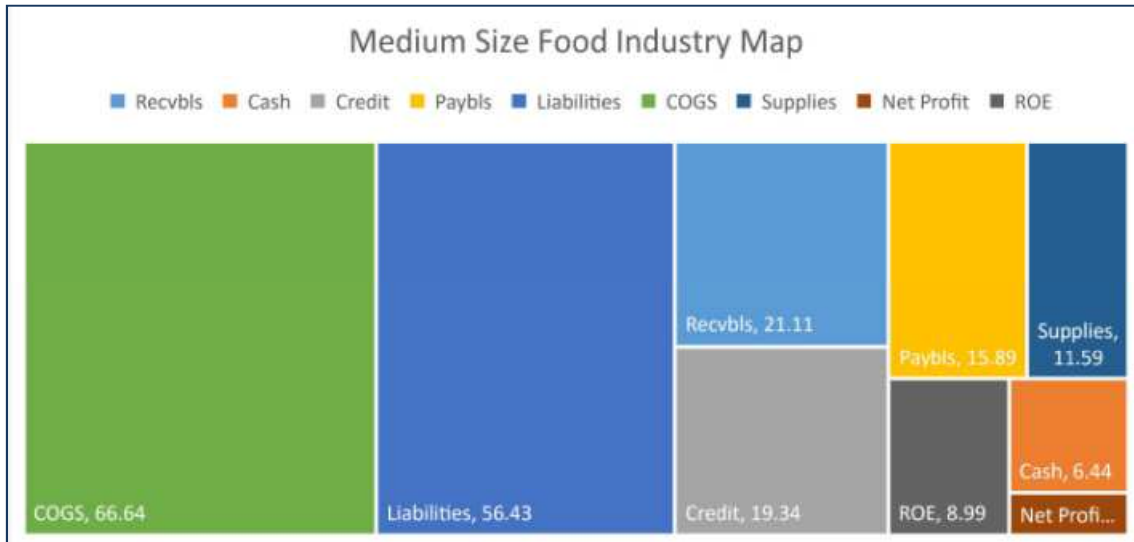
Quartile intervals for COGS have in Q3 Belgium, Italy and Poland, Q2 Spain and Portugal, Q1 Austria and Netherlands, and in Q0 Denmark and France.

Quartiles for Net Profit include in Q3 Belgium, Netherlands and Poland, Q2 Denmark and France, Q1 Austria and Spain and in Q0 Italy and Portugal.

Medium Size Industry

The values sorted by importance are presented in the figure 7.

Figure 7. Medium Size Industry Values Importance



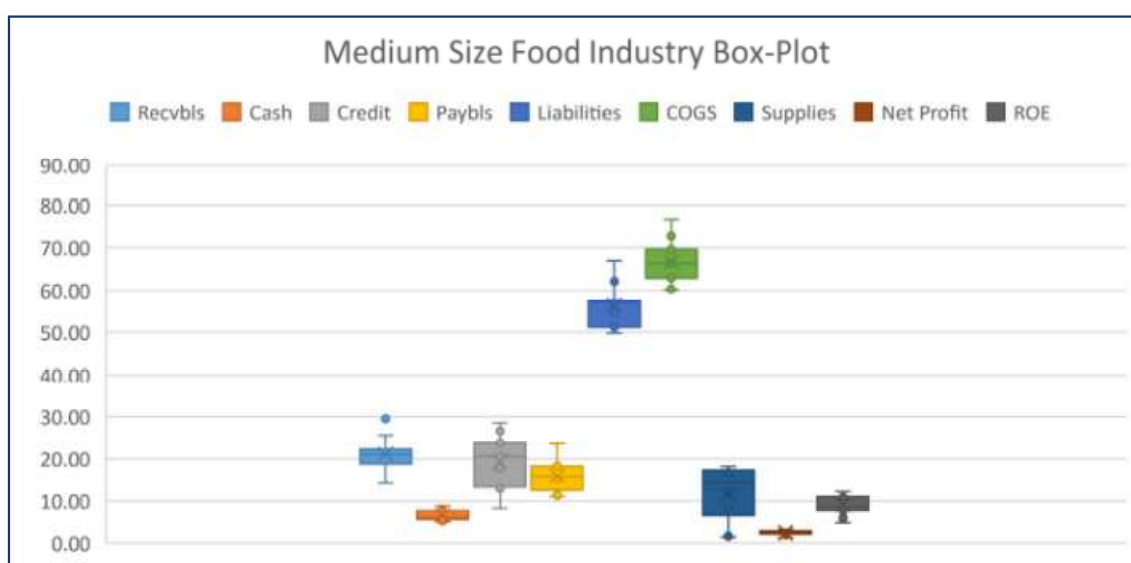
It can be noticed that COGS is the first value in importance, up 10% over small industry. Liabilities is the second value in importance, down 4% over small industry and likewise medium farms. Receivables is the third value in importance, up 6% over small industry and medium size farm. Receivables is larger than Payables, both reflecting the food distribution unbalance.

The dependency about the credit availability and the financial crisis impact is similar to small industry.

The inter quartile range graphically can be observed in the Box-Plot in figure 8.

Credit COGS and Supplies, present an important inter-quartile range. Receivables, Liabilities and Supplies have significant outliers, corresponding to Italy and France. The remaining values show small inter-quartile range and some outliers, which could imply there is not a common pattern across Europe, with differences among countries.

Figure 8. Medium Size Industry Values Dispersion



The detailed analysis at country level is shown in table 4.

Table 4. Medium Size Industry Data and Descriptive Statistics

country	Recvbls	Cash	Credit	Paybls	Liabilities	COGS	Supplies	Net Profit	ROE
AT	16.40	5.81	26.64	11.09	62.14	60.31	1.37	2.48	12.13
BE	22.31	7.68	13.30	18.37	51.19	62.90	17.76	2.79	8.60
DE	14.21	7.74	17.84	11.29	57.52	63.50		2.22	11.00
ES	21.54	5.47	20.51	15.82	54.59	66.33	16.62	2.72	7.59
FR	20.99	5.64	12.92	18.25	57.47	60.24	18.12	2.15	8.05
IT	29.54	6.68	28.58	23.58	66.95	67.53	17.12	1.25	4.71
NL	20.52	8.85	8.28	12.57	49.78	69.59	1.62	2.86	12.17
PL	18.80	5.14	22.22	15.26	51.21	76.72	7.94	3.16	10.83
PT	25.65	4.92	23.76	16.81	57.06	72.61	12.13	1.94	5.79
AVG	21.11	6.44	19.34	15.89	56.43	66.64	11.59	2.40	8.99
STD	4.59	1.37	6.80	3.99	5.57	5.61	7.11	0.58	2.71
VC	0.22	0.21	0.35	0.25	0.10	0.08	0.61	0.24	0.30
Q1	18.80	5.47	13.30	12.57	51.21	62.90	6.36	2.15	7.59
Q2	20.99	5.81	20.51	15.82	57.06	66.33	14.38	2.48	8.60
Q3	22.31	7.68	23.76	18.25	57.52	69.59	17.28	2.79	11.00

In this table Austria (Credit, Liabilities, Net Profit and ROE), Belgium (Cash, Supplies and Net Profit), Denmark (Cash, Net Profit and ROE), Italy (Receivables, Cash, Credit, Payables, Liabilities and Supplies), Netherlands (Cash, Net Profit and ROE) and Poland (COGS, Net Profit and ROE) show the larger concentration of maximum values. While Austria (Cash, Payables and COGS), Netherlands (Credit, Payables, Liabilities and Supplies) and Portugal (Cash, Net Profit and ROE) have minimum values. It can be noticed that some countries are both showing maximum and minimum values. The sample size can be accounted for some results.

The Variation Coefficient (VC) values are lower than before and stable.

The Quartile interval analysis per country is as follows:

Quartile intervals for Receivables are as follows: Q3 includes Belgium, Italy and Portugal, Q2 includes Spain and France, Q1 includes Netherlands and Poland, and Q0 Austria and Denmark.

Quartile intervals for Cash and Banks have in Q3 Belgium, Denmark and Netherlands, Q2 Austria and Italy, Q1 Spain and France, and in Q0 Poland and Portugal.

Quartiles for Credit include in Q3 Austria, Italy and Portugal, Q2 Spain and Poland, Q1 Belgium and Denmark, and in Q0 France and Netherlands.

Quartiles for Payables include in Q3 Belgium, France and Italy, Q2 Spain and Portugal, Q1 Netherlands and Poland, and in Q0 Austria and Denmark.

Quartile intervals for COGS have in Q3 Netherlands, Poland and Portugal, Q2 Spain and Italy, Q1 Belgium and Denmark, and in Q0 Austria and France.

Quartiles for Net Profit include in Q3 Belgium, Netherlands and Poland, Q2 Austria and Spain, Q1 Denmark and France and in Q0 Italy and Portugal.

4. CONCLUSIONS

The conclusions can be divided into two parts. One as a global perspective and other particular to the position of the each country with respect to the financial cash cycle operation associated to the Agri-Business sector.

As a global perspective, it is interesting to note that small enterprises (less than 10 Million Euros turnover), both farming and food industry sectors, show small variation between the countries and the sectors, to the point that the common-size Financial Statements could be characterized and resumed as a fixed value model given by the average value and confidence intervals, with the use of the VC coefficient.

The agri-food market in Europe is a strongly regulated market, with strong stabilizers, either national public policies, or EU like the Common Agricultural Policy (CAP). Convergence in the operation and economic results is to be expected by the long run (Svatos, 2013).

However the medium size enterprises for the analysed sectors cannot be characterized yet with a fixed value model as described for the small enterprises.

Thus for the medium size a larger sample and new analysis is needed to overcome the data fluctuations, in order to confirm if a model like the one in small enterprises is possible.

Other conclusion from the analysis is the poor capacity to finance investment projects in the small enterprises, being this capacity better with medium size enterprises. This also reflects that the banking financial crisis, without other special mechanisms to

finance farming and food industries, can stir up problems in the enterprises affecting their future.

The particular conclusions, are presented in table 5, EU Agri-Food Matrix, which for every country and financial value concept, provides an index of performance, tally from the quartile particular ranking. This index of performance globalizes all sizes (small and medium), and sectors (farm production and food industry) based on the quartile position. So, if a country has 4 Q3 positions, 3 Q2, 3 Q1 and 2 Q0 the index of performance calculated will be: $4 \times 3 + 3 \times 2 + 3 \times 1 = 21$

Table 5. EU Agri-Food Matrix

Country	Recvbls.	Cash	Credit	Paybls	COGS	Net Profit
AT	2	6	9	5	4	5
BE	10	12	6	5	8	5
DE	1	4	3	1	1	3
ES	7	5	4	6	6	6
FR	8	6	3	8	2	8
IT	12	5	8	15	10	0
NL	3	11	4	1	7	11
PL	4	2	4	4	10	12
PT	6	2	6	5	5	0

The countries with the highest index are: Austria for use of Credit, Belgium for Receivables and Cash in Banks, Italy for Receivables, Payables, use of Credit and Cost incurred in Goods, Netherlands for Cash in banks and Net Profit, and Poland for Net Profit and Cost incurred in Goods.

The companies with larger Cash in Banks are requiring less Bank Credits than the ones with low amount of Cash in Banks. The index for Cash also portrait the companies as more inclined to use Cash versus Credit for the working capital financing (Barret, 2016).

The companies with larger Receivables have longer time for collection from their customers (providing large credit period) and need short term financing. In the case of Italy also Payables is delayed.

The countries with the lowest index are: Italy and Portugal for the Net Profit, in Portugal and Poland also have low amount of Cash in Banks.

The case of Italy is interesting given the operational difficulties and the low Net Profit generated.

While Denmark has the lower index in Receivables / Payables, Credit and Cost of Goods, followed by France in low use of Credit and Netherlands in low Payables (short payment period).

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